NC/QC/YD/2020-21/W2-SS-CE1

Date: 26-12-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	162 min	Shall not be less than 30 min
2	Final setting time	265min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.03%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	2.18 mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.36 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

AE-2

A.E.E

NEWZEN CONSULTANT * Bangalore *

NC/QC/YD/2020-21/W2-SS-PCC1

Date: 24-12-2020

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	64.15	0 -20	30- 70
10mm	32.70	0 -5	10- 35
4.75mm	4.05	------	0- 5

AE-2
A.E.E

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS.

IS Sieve Size,-mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.70	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	81.25	60-95	75-100	85-100	
01.18	74.05	30-70	55-90	75-100	
600.mic	48.45	15-34	35-59	60-79	
300.mic	23.15	5-20	8-30	12-40	
150.mic	7.80	0-10	0-10	0-10	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

NEWZEN CONSULTANT * Bangalore * NEWZEN CONSULTANT

NC/QC/YD/2020-21/W2-SS-FA1 **Date: 26-12-2020**

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	96.55	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	83.60	60-95	75-100	85-100	
01.18	71.25	30-70	55-90	75-100	
600. mic	46.85	15.34	35-59	60-79	
300.mic	23.65	5-20	8-30	12-40	
150.mic	7.40	0-10	0-10	0-10	

AE-2

TABLE 1.2 :

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	17.63 %	-----
2	Silt Content	----	0.59%	Not more than 8%
3	Specific Gravity	----	2.61	-------

A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore *

NC/QC/YD/2020-21/W2-SS-CA1 **Date: 26-12-2020**

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	96.80	85-100	90 - 100
10 mm	45.25	0 - 20	25 - 55
4.75 mm	3.85	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS 383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	26.38%	Not to exceed 25 %
2.	Crushing value	28.74%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore *

NC/QC/YD/2020-21/W2-SS-CB1

Date: 04-01-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

AE-2
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A.E.E

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	28-12-20	04-01-21	07	22500	370	16.44	16.67
	002	"	"	"	"	380	16.89	
	003	"	"	"	"	375	16.67	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

Page No. 1/1,

NEWZEN CONSULTANT BANGALORE

NC/QC/YD/2020-21/W2-SS-1A

Date: 25-01-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

A E-2
1

TABLE 1.1:

A.E.E

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	28-12-20	25-01-21	28	22500	505	22.44	22.81
	002	"	"	"	"	520	23.11	
	003	"	"	"	"	515	22.89	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore * NEWZEN CO

NC/QC/YD/2020-21/W2-SS-2A

Date: 28-01-2021

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

AE-2 Grade of Concrete* : M_{20}

TABLE 1.1:

A.E.E

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	31-12-20	28-01-21	28	22500	515	22.89	22.59
	002	"	"	"	"	500	22.22	
	003	"	"	"	"	510	22.67	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * NEWZEN * Bangalore

NC/QC/YD/2020-21/W2-SS-K2

Date: 15-01-2021

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.31	22.40	**22.98**	As per Cl. 6.2.2 of IS 456-2000, fcr=0.7√ fck
2	002	3.39	23.45		
3	003	3.36	23.10		

A&2
1
A.E.E

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.59	**4.64**
2	002	4.71	
3	003	4.64	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore * K.R

NC/QC/YD/2020-21/W2-SS-W1 **Date: 18-01-2021**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	97.15	95-100
26.50	---	-
22.40	72.50	60-80
11.20	55.15	40-60
4.75	32.65	25-40
2.36	23.70	15-30
0.600	18.35	8-22
0.075	3.85	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-2
1
A.E.E

AE-02

NEWZEN CONSULTANT BANGALORE * NEWZEN CONSULTANT BANGALORE

Date: 18-01-2021

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.86%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.34 %**	Not more than 35.0 %
3.	Water absorption, %	**0.41 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

AE-2

A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore * NEWZEN CONSULTANT

Date: 19-01-2021

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.56%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.39%**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

A&E

A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli Railway Parallel rd

AE-02

NEWZEN CONSULTANT * Bangalore *

NC/QC/YD/2020-21/W2-SS-W3 **Date: 21-01-2021**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	97.45	95-100
26.50	---	-
22.40	72.10	60-80
11.20	56.70	40-60
4.75	34.15	25-40
2.36	23.65	15-30
0.600	19.35	8-22
0.075	3.20	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchenahalli Samudhaya Bhavan Rd

AE-2 A.E.E AE-QC

NEWZEN CONSULTANT * Bangalore * K.R

NC/QC/YD/2020-21/W2-SS-W4

Date: 23-01-2021

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	96.35	95-100
26.50	---	-
22.40	75.15	60-80
11.20	53.70	40-60
4.75	32.90	25-40
2.36	25.15	15-30
0.600	17.85	8-22
0.075	3.55	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Harohalli Eshwara temple road

AE-2
A.E.E

AE-02

NEWZEN CONSULTANT * Bangalore *

NC/QC/YD/2020-21/W2-SS-W5

Date: 25-01-2021

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	98.20	95-100
26.50	---	-
22.40	71.45	60-80
11.20	56.80	40-60
4.75	31.05	25-40
2.36	24.55	15-30
0.600	19.15	8-22
0.075	4.05	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Nagenahalli 7th A, 1st Cross Rd (From Dead End)

AE-2, A.E.E

AE-02

NEWZEN CONSULTANT BANGALORE

NC/QC/YD/2020-21/W2-SS-BD1 **Date: 25-01-2021**

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**52.80^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**107.90 cm**	40
3.	Flash point	**246^0 C**	Minimum 220^0 C
4.	Softening point	**51.30^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli main road

AE-2
A.E.E

AE-02

NEWZEN CONSULTANT BANGALORE, #13,10TH MAIN ROAD 2ND CROSS JNANAJYOTHI NAGARA
JNANABHARATHI, BANGALORE-560056. CELL NO: +91 [illegible]

NC/QC/YD/2020-21/W2-SS-DBM1 Date: 28-01-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.52 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	96.25	90-100
19.0	82.15	71-95
13.20	76.40	56-80
4.75	43.70	38-54
2.36	36.05	28-42
0.300	18.90	7-21
0.075	6.40	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli main road

AE-2
A.E.E

AE-02

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NEWZEN CONSULTANT BANGALORE, #13,10TH MAIN ROAD 2ND CROSS JNANAJYOTHI NAGARA,
JNANABHARATHI, BANGALORE-560056. CELL NO: +91 8792630951

NC/QC/YD/2020-21/W2-SS-DS1 **Date: 28-01-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1246**	900
2	Marshall Flow at 60°C, mm.	**3.32**	2.0 - 4.0

AE-2
A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli main road

AE-02

NEWZEN CONSULTANT * Bangalore * NEWZEN CONSULTANT

NC/QC/YD/2020-21/W2-SS-DBM3 **Date: 29-01-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.52 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	97.15	90-100
19.0	81.25	71-95
13.20	73.40	56-80
4.75	43.90	38-54
2.36	34.65	28-42
0.300	17.20	7-21
0.075	5.40	2-8

. The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli Samudhaya Bhavan Rd

AE-2

A.E.E

AE-02

NEWZEN CONSULTANT * Bangalore *

NEWZEN CONSULTANT BANGALORE, #13,10TH MAIN ROAD 2ND CROSS JNANAJYOTHI NAGARA,
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EMAIL:newzen5576@gmail.com

NC/QC/YD/2020-21/W2-SS-DBM4 Date: 29-01-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.51 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	95.45	90-100
19.0	81.25	71-95
13.20	73.60	56-80
4.75	49.10	38-54
2.36	37.90	28-42
0.300	19.25	7-21
0.075	6.15	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Harohalli Eshwara temple road

AE-2
A.E.E

AE-02

NEWZEN CONSULTANT * Bangalore * NEWZEN CONSULTANT

NEWZEN CONSULTANT BANGALORE, #13,10TH MAIN ROAD 2ND CROSS JNANAJYOTHI NAGARA,
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EMAIL:newzen576@gmail.com

NC/QC/YD/2020-21/W2-SS-DS4 **Date: 29-01-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1262**	900
2	Marshall Flow at 60°C, mm.	**3.52**	2.0 - 4.0

AE-2
A.E.E

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Harohalli Eshwara temple road

AE-02

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NC/QC/YD/2020-21/W2-SS-DBM5 **Date: 30-01-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.53 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	95.45	90-100
19.0	83.25	71-95
13.20	70.60	56-80
4.75	48.10	38-54
2.36	34.90	28-42
0.300	19.05	7-21
0.075	7.10	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Nagenahalli 7th A, 1st Cross Rd (From Dead End)

AE-2
A.E.E

AE-2

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NC/QC/YD/2020-21/W2-SS-BB1 **Date: 27-01-2021**

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**51.40^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**108.0 cm**	40
3.	Flash point	**237^0 C**	Minimum 220^0 C
4.	Softening point	**50.20^0 C**	Min. 47

AE-2
A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli main road

AE-02

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NC/QC/YD/2020-21/W2-SS-CB1 Date: 27-01-2021

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Bituminous Concrete.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**22.84 %**	Not more than 24.00 %
2.	Combined Flakiness and Elongation index, %	**27.56 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	-------
5.	Soundness	**5.36%**	Max. 12 % in Sodium Sulphate

. The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Kenchanahalli main road

AE-02

A.E.E

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NC/QC/YD/2020-21/W2-SS-BS1 **Date: 30-01-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1366**	900
2	Marshall Flow at 60°C, mm.	**3.52**	2.0 - 4.0

AE-2

A.E.E

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Kenchanahalli main road

AE-02

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NC/QC/YD/2020-21/W2-SS-BC2 **Date: 01-02-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43%**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	96.65	90-100
9.5	81.15	70-88
4.75	67.50	53-71
2.36	54.20	42-58
1.18	32.90	34-48
0.600	29.05	26-38
0.300	23.45	18-28
0.150	17.65	12-20
0.075	7.25	4-10

A&2

A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Harohalli Eshwara temple road

AE-02

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NC/QC/YD/2020-21/W2-SS-BS2 **Date: 01-02-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1356**	900
2	Marshall Flow at 60°C, mm.	**3.40**	2.0 - 4.0

AE-2
A.E.E

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Harohalli Eshwara temple road

AE-02

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NC/QC/YD/2020-21/W2-SS-BC3 Date: 01-02-2021

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.44 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	98.25	90-100
9.5	80.15	70-88
4.75	65.90	53-71
2.36	51.35	42-58
1.18	45.05	34-48
0.600	31.85	26-38
0.300	23.55	18-28
0.150	18.70	12-20
0.075	8.15	4-10

. The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Nagenahalli 7th A, 1st Cross Rd (From Dead End)

AE-2
A.E.E

AE-02

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NC/QC/YD/2020-21/W2-SS-BC4 **Date: 02-02-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.41 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	97.35	90-100
9.5	82.40	70-88
4.75	64.25	53-71
2.36	52.65	42-58
1.18	45.05	34-48
0.600	31.05	26-38
0.300	22.75	18-28
0.150	18.10	12-20
0.075	6.55	4-10

AE-2
A.E.E

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Nagenahalli 7th A Cross Rd (From Dead End)

AE-02 **Page No. 1/1**

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NC/QC/YD/2020-21/W2-SS-BS4 **Date: 02-02-2021**

1.TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads and Drains at SC/ST areas in ward no-02 of Yelahanka Sub Division.}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Sri Ramesh. Y.B, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1352**	900
2	Marshall Flow at 60°C, mm.	**3.40**	2.0 - 4.0

AE-2 1 A.E.E

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Nagenahalli 7th A Cross Rd (From Dead End)

AE-02

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